

AMENDMENTS TO THE CLAIMS

Claims 1 – 11 (Cancelled)

Claim <sup>1</sup>12 (Currently Amended): A method of testing the ~~chronic~~ effect on neural or muscle tissue samples of chemical substances comprising:

providing a detector, wherein the detector comprises a plurality of microelectrodes on a substrate configured to contact the tissue sample and apply an electric stimulus to the tissue sample;

contacting said neural or muscle tissue sample with the plurality of the microelectrodes;

measuring ~~the electrical properties of~~ a complete electrical waveform from the neural or muscle tissue sample;

adding said chemical substance to the neural or muscle tissue sample;

measuring ~~the electrical properties of~~ the complete electrical waveform from the neural or muscle tissue sample at a time which measures ~~chronic~~ response to said chemical substance; and

comparing said electrical ~~properties~~ waveforms before and after said addition of said chemical substance to determine whether said added chemical substance has had an influence on the neural or muscle tissue sample.

Claim 13 (Cancelled)

Claim <sup>2</sup>14 (Previously Presented): The method of claim <sup>1</sup>12 for testing the effect on neural or muscle tissue samples of chemical substances as medicines, wherein the step of adding chemical substance to the neural or muscle tissue sample comprises adding said chemical substance in a selected concentration to the neural or muscle tissue sample.

Claim 15 (Cancelled)

Claim <sup>3</sup>16 (Previously Presented): The method of claim <sup>1</sup>12 for testing the effect on neural or muscle tissue samples of chemical substances as medicines, wherein the chronic measuring step takes place at least three days after said addition step.